REMARKS

The following remarks are made in response to the Office Action mailed June 21, 2006. In the Office Action, claims 3-7, 10-17, and 19 were rejected, claims 8, 9, and 18 were objected to, and claims 20-22 were allowed. With this Response, claims 3-10, 16, and 21 have been amended. Claims 3-22 are pending in the application.

Claim Rejections under 35 U.S.C. § 103

In the Office Action, claims 3-4, 7, 10-13, 16, 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Beaman U.S. Patent 5,738,531 (the Beaman Patent) in view of Bonnefoy U.S. Patent 4,611,869 (the Bonnefoy Patent).

Applicants' amended independent claim 3 claims an electronic component system.

The Office Action asserts that insulator 23 is a spring member 23 (in regard to independent claims 3, 11, and 16) when nothing in the Beaman Patent appears to indicate or hint that insulator 23 carries the function, shape, size, etc of a spring member, as recited in Applicants' claim 3. In particular, the Beaman Patent discloses that the insulator 23 is installed from the back side of printed circuit board 21, typically composed of a polyamide, to avoid shorting of adjacent land, vias, or other conductive elements. See the Beaman Patent at Column 4, lines 54-55. The Beaman Patent provides the insulator 23 at the back side of printed circuit board because backing plate 19 is metallic and therefore an electrical conductor, but not to act as a spring or force distributing element, as claimed by Applicants in independent claim 3

Moreover, the Beaman Patent provides two instances in which insulator 23 would be unnecessary, and therefore not included in the assembly of the Beaman Patent. In one example, if the backing plate 19 is nonconductive, insulator 23 is unnecessary. In another example, if the underside of circuit board 21 at the location of backing plate 19 has no conductive paths, then insulator 23 is not needed. See the Beaman Patent at Column 4, lines 54-62. Accordingly, because insulator 23 is described in association with functions having nothing to do with force distribution or with applying a compressive force and because insulator 23 is not a required component of the assembled device of the Beaman Patent, it is not appropriate to designate the insulator 23 as a spring member in applying the Beaman Patent against Applicants' independent claim 3.

Accordingly, the admission in the Office Action regarding claim 3 (that the Beaman Patent fails to disclose a spring member being curved and in pressing contact against the second side of the printed circuit board adjacent a center of the printed circuit board) grossly understates the deficiency of the Beaman Patent because the Beaman Patent fails to disclose, in any manner, that insulator 23 would comprise any type of spring member. Therefore, the other limitations of Applicants' claim 3 regarding the spring member being curved and "in pressing contact" are deficiencies of the Beaman Patent that extend above and beyond the basic deficiency of the Beaman Patent failing to disclose the insulator 23 as any type of spring member.

In addition, the Beaman Patent fails to disclose a first portion of the spring member being in secured contact with the backing plate and spaced from the second side of the printed circuit board in an assembled state of the system, as recited in Applicants' amended independent claim 3.

The Bonnefoy Patent fails to cure these deficiencies of the Beaman Patent regarding Applicants' amended independent claim 3. The Bonnefoy Patent discloses clip 22 and clip 23 which are in a cambered form (i.e. a curved shape) as illustrated in Figures 4-5 **prior to achieving** the clamped/assembled state shown in Figure 3 (see the Bonnefoy Patent at Figures 4-5, and Column 4, lines 8-62). As shown in Figure 3, in the clamped state, substantially all, or all, of the clip 22 is in contact against element 29 and/or substantially all or all of clip 23 is in contact against element 20. In other words, in the clamped/assembled state shown in Figure 3 of the Bonnefoy Patent, the clip 22,23 becomes flat with no portion of the clip 22, 23 spaced from element 29. Accordingly, the Bonnefoy Patent teaches away from Applicant's claim 3 which includes a first portion of the spring member being in secured contact with the backing plate and spaced from the second side of the printed circuit board in an assembled state of the system, as recited in Applicant's amended independent claim 3.

In addition, in the clamped/assembled state shown in Figure 3 of the Bonnefoy Patent, no portion of clip 22,23 is curved or cambered. Accordingly, this arrangement in the Bonnefoy Patent, teaches away from Applicant's independent claim 3 which includes the limitation that the curved spring member retains a generally curved shape in both an

unassembled state of the system and in an assembled stated of the system, as recited in Applicants' independent claim 3.

Finally, the Bonnefoy Patent fails to disclose a backing plate at all. The Bonnefoy Patent also fails to indicate how one would employ the clip 22, 23 in cooperation with a backing plate.

Accordingly, one cannot combine the Beaman Patent and the Bonnefoy Patent and arrive at Applicants' amended independent claim 3.

Moreover, one skilled in the art would not even look to the Bonnefoy Patent in an attempt to modify the Beaman Patent because a combination of the Beaman Patent and the Bonnefoy Patent would require much more than substituting one alleged spring member (the insulator 23) for another spring member but instead replacing an insulator 23 having no spring or compressive functions with a spring member for applying a compressive force. Moreover, because the Bonnefoy Patent fails to address whether its clips 22 are metallic or not, the Beaman Patent apparently does not provide an insulative function and therefore the replacement of the clips 22 of the Bonnefoy Patent for the insulator 23 of the Beaman Patent could potentially make the assembly of the Beaman Patent inoperable when the backside of the printed circuit board of the Beaman Patent includes conductive paths or is made of an electrical conductor (as described in the Beaman Patent). For these reasons, one skilled in the art would not attempt to combine the Beaman Patent and the Bonnefoy Patent.

For these reasons, the Beaman Patent and the Bonnefoy Patent, alone or in combination, fail to teach or suggest Applicants' amended independent claim 3, and therefore Applicants' amended independent claim 3 is patentable and allowable over the Beaman Patent and the Bonnefoy Patent. Dependent claims 4, 7, and 10 are believed to be allowable as they further define patentably distinct independent claim 3.

Applicants' independent claim 11 claims a force distributing mechanism.

For substantially the same reasons previously presented for the patentability of Applicants' independent claim 3, the Beaman Patent fails to disclose that insulator 23 comprises a spring member and, as admitted in the Office Action, additionally fails to disclose a spring member being curved and in pressing contact against the second side of the

printed circuit board adjacent a center of the printed circuit board, as admitted in the Office Action regarding Applicants' independent claim 11.

Accordingly, the Beaman Patent fails to disclose a means for maintaining and distributing a contact force substantially uniformly across a contact array of a land grid array module and a contact array of a printed circuit board, wherein in an assembled state of the land grid array module and the printed circuit board, the means for maintaining and distributing the contact force is in direct contact with the printed circuit board adjacent a center portion of the printed circuit board relative to the land grid array module, as recited in Applicants' independent claim 11.

In addition, the Beaman Patent fails to disclose that the means for maintaining and distributing the contact force is spaced from the printed circuit board at an adjacent outer portion of the printed circuit board relative to the land grid array module (in the assembled state of the land grid array module and the printed circuit board), as recited in Applicants' independent claim 11.

For substantially the same reasons as previously presented for the patentability of Applicant's independent claim 3, the Bonnefoy Patent fails to cure these deficiencies of the Beaman Patent regarding Applicants' independent claim 11. In particular, Figure 3 of the Bonnefoy Patent illustrates a clamped/assembled state in which the clip 22, 23 becomes flat with no portion of the clip 22, 23 spaced from element 29. Accordingly, the Bonnefoy Patent teaches away from Applicants' limitation in claim 11 of a means for maintaining and distributing the contact force that is spaced from the printed circuit board at an adjacent outer portion of the printed circuit board relative to the land grid array module (in the assembled state of the land grid array module and the printed circuit board).

For these reasons, one cannot combine the Beaman Patent and the Bonnefoy Patent to arrive at Applicants' independent claim 11 and therefore, the Beaman Patent and the Bonnefoy Patent, alone or in combination, fail to teach or suggest Applicants' amended independent claim 11. Accordingly, Applicants' amended independent claim 11 is patentable and allowable over the Beaman Patent and the Bonnefoy Patent. In addition, dependent claims 12-14 are also believed to be allowable as they further define patentably distinct independent claim 11.

Applicants' independent claim 16 claims a method of distributing a contact force between a land grid array module and a printed circuit board.

For substantially the same reasons previously presented for the patentability of Applicant's independent claim 3, the Beaman Patent fails to disclose that insulator 23 of the Beaman Patent comprises a spring member as recited in the limitations of Applicants' independent claim 16. In addition to failing to disclose that insulator 23 comprises a spring member, the Office Action (regarding claims 3, 11, and 16) admits that the Beaman Patent fails to disclose a spring member being curved and in pressing contact against the second side of the printed circuit board adjacent a center of the printed circuit board.

In addition to failing to disclose insulator 23 as a spring member, the Beaman Patent also fails to disclose a first portion of a spring member being in secured contact with the backing plate and spaced from the second side of the printed circuit board in an assembled state of the land grid array module, the printed circuit board, and the spring member, as recited in Applicant's independent claim 16.

For substantially the same reasons as previously presented for the patentability of Applicant's independent claim 3, the Bonnefoy Patent fails to cure these deficiencies of the Beaman Patent regarding Applicants' amended independent claim 16. Accordingly, the Bonnefoy Patent does not disclose a first portion of a spring member in secured contact with a backing plate and the first portion of the spring member spaced from the printed circuit board in an assembled state of the land grid array module, the printed circuit board, and the spring member, and wherein a second portion of the spring member is biased in unsecured, pressing direct contact against the second side of the printed circuit board, as recited in Applicant's amended independent claim 16.

In addition for the reasons previously presented for the patentability of Applicants' claim 3, the Bonnefoy Patent teaches away from Applicant's independent claim 16 which includes the limitation that the curved spring member retains a generally curved shape in both an unassembled state of the system and in an assembled stated of the system.

For these reasons, one cannot combine the Beaman Patent and the Bonnefoy Patent to arrive at Applicants' independent claim 16 and therefore, the Beaman Patent and the Bonnefoy Patent, alone or in combination, fail to teach or suggest Applicants' amended independent claim 16. Accordingly, Applicants' amended independent claim 16 is patentable

and allowable over the Beaman Patent and the Bonnefoy Patent. Dependent claim 19 is also believed to be allowable as it further defines patentably distinct independent claim 16.

In the Office Action, claims 15 and 17 was rejected under 35 U.S.C. 103(a) as being unpatentable over the Beaman Patent in view of the Bonnefoy Patent, and further in view of Haselby U.S. Patent 6,299,460 (the Haselby Patent).

Dependent claim 15 is believed to be allowable because claim 15 further defines patentably distinct independent claim 11 (via intervening claim 12), which is patentable and allowable for the reasons previously presented. Dependent claim 17 is believed to be allowable because claim 17 further defines patentably distinct independent claim 16, which is patentable and allowable for the reasons previously presented.

In the Office Action, claims 5-6, and 14 were rejected under 35 U.S.C. 103(a) as being unpatentable over the Beaman Patent in view of the Bonnefoy Patent, and further in view of Sinha et al. U.S. Patent 6,475,011 (herein the Sinha Patent).

Dependent claims 5-6 are believed to be allowable because they define patentably distinct independent claim 3, which is patentable and allowable for the reasons previously presented. Dependent claim 14 is believed to be allowable because claim 14 further defines patentably distinct independent claim 11, which is patentable and allowable for the reasons previously presented.

In light of the above, Applicants respectfully request withdrawal of the above rejections of claims 3-7, 10-17, and 19 under 35 U.S.C. §103 and respectfully request allowance of these claims.

Allowable Subject Matter

The Examiner objected to claims 8-9, and 18 for being dependent upon a rejected base claim, but indicated that claims 8-9 and 18 would be allowable if rewritten in independent form including all limitations of the base claim and any intervening claims.

Claims 20-22 were allowed.

CONCLUSION

In view of the above, Applicants respectfully submit that pending claims 3-22 are in form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 3-19 is respectfully requested along with confirmation of the allowance of claims 20-22.

No fees are required under 37 C.F.R. 1.16(h)(i). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 08-2025.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

Any inquiry regarding this Amendment and Response should be directed to either David A. Plettner at Telephone No. (408) 447-3013, Facsimile No. (408) 447-0854 or Paul S. Grunzweig at Telephone No. (612) 767-2504, Facsimile No. (612) 573-2005. In addition, all correspondence should continue to be directed to the following address:

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CERTIFICATE UNDER 37 C.F.R. 1.8:

The undersigned hereby certifies that this paper or papers, as described herein, are being transmitted via facsimile to Facsimile No. (571) 273-8300 on this 21st day of September, 2006.

By: _____
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